

REMARKS

In response to the Office Action mailed April 5, 2007 (hereinafter "Office Action"), claims 20 and 42 have been amended without any intention of narrowing the scope of any of the claims as Applicant submits that direct bond, in view of the specification, should have already been understood by a person skilled in the art as being a bond by which molecules of one object chemically interact with the other object to which it is connected. Support for the instant amendments is provided throughout the as-filed specification. See, e.g., paragraph [0058] of the specification. Thus, no new matter has been added. Claims 1-3, 6-46 and 48-53 are pending. Reconsideration and allowance of all the claims pending in the application are respectfully requested in view of the following comments.

Claims 2 and 3 appear to stand rejected as indicated on the Office Action Summary; however, Applicant cannot find any basis for these rejections in the Office Action. If there is a subsequent Office Action rejecting these claims, Applicant respectfully requests clarification of the basis for the rejection of claims 2 and 3 in a non-final Office Action so that Applicant may have an opportunity to properly respond.

REJECTIONS UNDER 35 U.S.C. §102

Claims 20, 24-25, 28, 38, 40 and 42 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,556,364 to Meehan *et al.* ("Meehan"). Applicants respectfully traverse this rejection for at least the followings reasons.

Applicant submits that the cited portions of Meehan fail to disclose a lithographic apparatus, comprising, *inter alia*, a projection system configured to project the patterned beam onto a target portion of the substrate, wherein a fluid tight joint between an element of the projection system and its support comprises a direct bond by which molecules of the element and its support chemically interact as recited in claim 20.

The cited portions of Meehan merely disclose attaching a lens using epoxy adhesive or by metal screws or clips and provide no disclosure regarding a direct bond by which molecules of the element and its support chemically interact.

Claims 24, 25 and 28 are patentable over Meehan *at least* by virtue of their dependency from claim 20, and for the additional features they recite.

Applicant submits that the cited portions of Meehan fail to disclose a lithographic apparatus comprising, *inter alia*, a projection system configured to project the patterned beam

onto a target portion of the substrate, the projection system having a lens, a lens support and an inorganic material providing a fluid tight seal between the lens and the lens support wherein the seal was made without heating as recited in claim 38.

As noted above, the cited portions of Meehan merely disclose attaching a lens using epoxy adhesive or by metal screws or clips, neither of which is an inorganic material providing a fluid tight seal. The cited portions of Meehan are silent as to the adhesion of the lens to the support as being fluid tight and moreover, epoxy adhesive is an organic material.

Claim 40 is patentable over Meehan *at least* by virtue of its dependency from claim 38, and for the additional features it recites.

Applicant further submits that the cited portions of Meehan fail to disclose a lithographic apparatus comprising, *inter alia*, a projection system configured to project the patterned beam onto a target portion of the substrate, the projection system having a lens, a lens support and a direct bond, by which molecules of the lens and the lens support chemically interact, providing a fluid tight seal between the lens and the lens support as recited in claim 42.

The cited portions of Meehan merely disclose attaching a lens using epoxy adhesive or by metal screws or clips and provide no disclosure regarding a direct bond by which molecules of the lens and the lens support chemically interact.

Thus, Applicant respectfully requests that the rejections of claims 20, 24-25, 28, 38, 40 and 42 under 35 U.S.C. §102(e) be withdrawn and the claims be allowed.

REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 6-8, 10, 14-20, 23-26, 28, 32-37 and 42-45 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2004/0090607 to Yoshida in view of U.S. Patent No. 6,392,824 to Holderer *et al.* (“Holderer”). Applicant respectfully traverses this rejection for *at least* the reason that a *prima facie* case of obviousness has not been established.

Claim 1 is directed to a lithographic apparatus comprising, *inter alia*, a projection system configured to project the patterned beam onto a target portion of the substrate, wherein a joint between an element of the projection system and its support comprises an inorganic layer comprising (i) metal, (ii) ceramic, (iii) glass, or (iv) any combination of (i) – (iii), and comprises glue protection.

The Office Action concedes that Yoshida does not disclose or teach these aspects and attempts to remedy these admitted deficiencies by combining Yoshida with the teachings of Holderer. The Office Action has failed to set forth a proper reasoned basis to modify Yoshida in view of Holderer or otherwise combine Yoshida and Holderer. In fact, the Office Action has not provided any suggestion, motivation or other reasoned basis. Moreover, a simple statement that a modification or combination would have been obvious to one of ordinary skill in the art is not sufficient to provide a motivation or reasoned basis for the proposed combination, absent a teaching within the references themselves, teaching in the knowledge generally available to one of ordinary skill in the art or other reasoned basis supported by evidence, suggesting a desirability or other proper reason for combining the references.

Moreover, even assuming *arguendo* that Yoshida and Holderer are properly combinable (which Applicant does not concede), the cited portions of Holderer do not remedy the deficiencies of Yoshida. The cited portions of Holderer merely disclose metal soldering of the lens to a support, but fail to disclose or teach, for example, glue protection as recited in claim 1.

For *at least* these reasons, the Office Action has failed to establish a *prima facie* case of obviousness and, accordingly, the rejection of claim 1 under 35 U.S.C. §103(a) is improper and should be withdrawn.

Dependent claims 6-8, 10 and 14-19 are allowable because they depend from allowable claim 1, as well as for the further features they recite.

Claim 20 is directed to a lithographic apparatus comprising, *inter alia*, a projection system configured to project the patterned beam onto a target portion of the substrate, wherein a fluid tight joint between an element of the projection system and its support comprises a direct bond by which molecules of the element and its support chemically interact.

The Office Action concedes that Yoshida does not disclose or teach these aspects and attempts to remedy these admitted deficiencies by combining Yoshida with the teachings of Holderer. The Office Action has failed to set forth a proper reasoned basis to modify Yoshida in view of Holderer or otherwise combine Yoshida and Holderer. In fact, the Office Action has not provided any suggestion, motivation or other reasoned basis. Moreover, a simple statement that a modification or combination would have been obvious to one of ordinary skill in the art is not sufficient to provide a motivation or reasoned basis for the proposed combination, absent a teaching within the references themselves, teaching in the knowledge

generally available to one of ordinary skill in the art or other reasoned basis supported by evidence, suggesting a desirability or other proper reason for combining the references.

Moreover, even assuming *arguendo* that Yoshida and Holderer are properly combinable (which Applicant does not concede), the cited portions of Holderer do not remedy the deficiencies of Yoshida. The cited portions of Holderer merely disclose metal soldering of the lens to a support, but fail to disclose or teach, for example, a direct bond by which molecules of the element and its support chemically interact as recited in claim 20.

For *at least* these reasons, the Office Action has failed to establish a *prima facie* case of obviousness and, accordingly, the rejection of claim 20 under 35 U.S.C. §103(a) is improper and should be withdrawn. Dependent claims 23-26, 28 and 32-37 are allowable because they depend from allowable claim 20, as well as for the further features they recite.

Claim 42 is directed to a lithographic apparatus comprising, *inter alia*, a projection system configured to project the patterned beam onto a target portion of the substrate, the projection system having a lens, a lens support and a direct bond, by which molecules of the lens and the lens support chemically interact, providing a fluid tight seal between the lens and the lens support.

The Office Action concedes that Yoshida does not disclose or teach these aspects and attempts to remedy these admitted deficiencies by combining Yoshida with the teachings of Holderer. The Office Action has failed to set forth a proper reasoned basis to modify Yoshida in view of Holderer or otherwise combine Yoshida and Holderer. In fact, the Office Action has not provided any suggestion, motivation or other reasoned basis. Moreover, a simple statement that a modification or combination would have been obvious to one of ordinary skill in the art is not sufficient to provide a motivation or reasoned basis for the proposed combination, absent a teaching within the references themselves, teaching in the knowledge generally available to one of ordinary skill in the art or other reasoned basis supported by evidence, suggesting a desirability or other proper reason for combining the references.

Moreover, even assuming *arguendo* that Yoshida and Holderer are properly combinable (which Applicant does not concede), the cited portions of Holderer do not remedy the deficiencies of Yoshida. The cited portions of Holderer merely disclose metal soldering of the lens to a support, but fail to disclose or teach, for example, a direct bond, by which molecules of the lens and the lens support chemically interact, providing a fluid tight seal as recited in claim 42.

For *at least* these reasons, the Office Action has failed to establish a *prima facie* case of obviousness and, accordingly, the rejection of claim 42 under 35 U.S.C. §103(a) is improper and should be withdrawn. Dependent claims 43-45 are allowable because they depend from allowable claim 42, as well as for the further features they recite.

Claims 16-18, 21-22, 35-37, 41 and 45 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Meehan. Applicant respectfully traverses this rejection for *at least* the reason that a *prima facie* case of obviousness has not been established.

With regard to the rejections of claims 16-18, these claims are dependent on claim 1. However, claim 1 has not been rejected under either 35 U.S.C. §§102 or 103 in view of Meehan. Thus, the rejection of claims 16-18 under 35 U.S.C. §103(a) as allegedly being unpatentable over Meehan are improper and Applicant respectfully requests that the rejections be withdrawn and the claims be allowed. But, if even proper, the cited portions of Meehan fail to disclose or teach, for example, an inorganic layer and glue protection as recited in claim 1.

With regard to claims 21-22 and 35-47, these claims are allowable *at least* because they depend from allowable claim 20, and for the further features they recite. As noted above, the cited portions of Meehan merely disclose attaching a lens using epoxy adhesive or by metal screws or clips and provide no disclosure or teaching regarding a direct bond by which molecules of the element and its support chemically interact.

With regard to claims 41 and 45, these claims are allowable *at least* because they depend from allowable claims 38 and 42, respectively, and for the further features they recite. As noted above, the cited portions of Meehan merely disclose attaching a lens using epoxy adhesive or by metal screws or clips, neither of which is an inorganic material providing a fluid tight seal as recited in claim 38. The cited portions of Meehan are silent as to the adhesion of the lens to the support as being fluid tight and moreover, epoxy adhesive is an organic material. Further, the cited portions of Meehan provide no disclosure or teaching regarding, for example, a direct bond by which molecules of the lens and the lens support chemically interact as recited in claim 42.

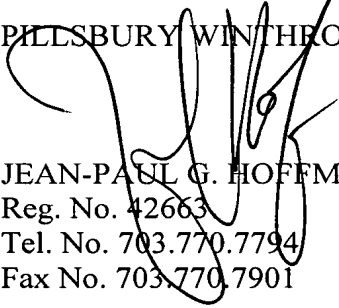
Thus, Applicant respectfully requests that the rejection of claims 6-18, 21-22, 35-37, 41 and 45 under 35 U.S.C. §103(a) be withdrawn and the claims be allowed.

All rejections have been addressed. It is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited. Should there be any questions or concerns regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



JEAN-PAUL G. HOFFMAN
Reg. No. 42663
Tel. No. 703.770.7794
Fax No. 703.770.7901

Date: July 13, 2007
P.O. Box 10500
McLean, VA 22102
(703) 770-7900